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ABSTRACT

A review of the literature related to the impact of vocational education on student retention determined that various types of vocational education programs and approaches have been successful in keeping students in school. Other research showed that vocational education played a role in student retention only when coupled with other components such as work experience. Several other studies found that with increased graduation requirements and thus limited access to vocational education the dropout rate increased. A limited number of studies found inconclusive evidence that vocational education has an impact on student retention, and a small number of studies found that vocational education had either a negative impact or no impact on keeping students in school. (The report includes a table that summarizes these research strands by author. Contains 101 references.) (KC)

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# A REVIEW OF THE LITERATURE REGARDING THE IMPACT OF VOCATIONAL EDUCATION ON STUDENT RETENTION: A PAPER TO SUPPORT A RESEARCH STUDY REGARDING GEORGIA SECONDARY SCHOOL VOCATIONAL INSTRUCTORS, VOCATIONAL EDUCATION SUPERVISORS, AND PRINCIPALS

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## INTRODUCTION

### Background

One of the most critical problems facing education today is that of the school dropout--a student who leaves school before graduation or the completion of a program (Beck & Muia, 1981). Estimates vary with the way the dropout rate is calculated. Therefore, different estimates of young people who drop out range from 14% to 27%. However, the dropout rate may go as high as 40% in major metropolitan cities (Woodring, 1989).

According to Weber and Sechler (1988), studying the nation's dropout problem has become a major emphasis in American education. However, despite findings of a report prepared for the Mott Foundation that 800,000 to 1 million students drop out of high school each year--many of whom lack the skills for employment--only a small number of state educational commissions had up to the time of this report chosen to focus on the kinds of programs that could assist these youth who are at risk of dropping out of school (Weber, 1986). When it comes to dropout prevention, it is easier to describe students at risk of dropping out than it is to describe the programs that work (Mann, 1986).

A number of conditions have been identified as risk factors indicating that a student may be in danger of dropping out. According to Hahn (1987), these include: (a) behind in grade level, (b) poor academic performance, (c) dislike school, (d) frequent detention/suspension, (e) pregnancy, (f) welfare recipient and single-parent household, and (g) the attractiveness of work.

Knowing why students drop out of school can assist schools, school districts, and states in developing effective policies and practices for encouraging them to stay in school (Pallas, 1986). A study was conducted in 17 large school districts to determine the most common reasons students leave school. The most common reasons given by school district officials for students leaving school include: (a) attendance problems, (b) lack of interest in school, (c) poor grades, (d) problems with teachers, (e) family problems or responsibilities, (f) discipline problems, and (g) financial problems (Barber & McClellan, 1987). Catterall (1985) stated that many of these at-risk students who drop out never return to the educational system.

Dropouts are a concern to families, educators, and policymakers for a number of reasons. They may suffer economic and social disadvantages throughout their lives. According to Gage (1990), dropping out means less earning power, but the effects on the individual are not merely financial. Dropouts tend to read less well and have more difficulty finding well-paying and steady jobs throughout

their lives. Thus, dropouts have higher unemployment rates and wind up in jail more often. Beyond economic and social effects, dropping out has medical and psychological effects. Higher unemployment is associated with higher mortality rates, higher suicide rates, and higher rates of admission to mental hospitals (Gage, 1990).

Clearly, dropping out hurts the nation in terms of health, wealth, and the achievement of our democratic ideals. The costs of the dropout problem are reflected in higher welfare expenditures, the loss of tax revenues, and increased crime. Given these adverse effects, there is good reason why there is a national resolve to reduce the dropout rate (Gage, 1990). America 2000: An Education Strategy (1991) has identified six national goals for education. Goal Two states that by the year 2000, the high school graduation rate will increase to at least 90% (Day, Anderson, & Russell, 1992). This means a 10% dropout rate.

But the question remains as to whether there is any feasible way of reducing the dropout problem. Ford (1991) posed a question pertaining to students leaving school. If students leave school because they do not feel successful or because they do not like school (perhaps they have had negative experiences), what can be done to change the school environment so that students can be successful and have positive experiences?

Vocational education may help provide the answer to this question. According to Weber (1988b), vocational education has traditionally taken the back seat to college-preparatory programs and often serves as the dumping ground for students who have failed elsewhere. However, vocational programs offer a clear alternative to students who have difficulty succeeding in a traditional academic environment. There are a number of things that make vocational education an important part of the total school program and an important part of any effort to keep students in school. These things include: (a) the hands-on, performance-oriented approach typically found in vocational education classrooms; (b) the way instruction is tied to the workplace; (c) the emphasis on individual and small-group activities; (d) the task-oriented interpersonal communication; (e) the opportunities for reinforcing basic skills; (f) the necessity for making decisions and working toward reachable goals; and (g) the opportunities to experience success. The better the vocational program, the better the school can serve youth and prepare them for a decent future. Retaining and improving the opportunities afforded by a truly comprehensive high school curriculum must be part and parcel of local, state, and national policy directed toward reducing the dropout rate (Weber, 1988b).

## Significance of the Study

Since the inception of public education, the problem of dropouts has plagued the educational system (Ford, 1991). Through the 1960s, 1970s, 1980s, and 1990s, however, the problem seems to be becoming epidemic. Thousands of youth have turned away from the educational system established to help them grow and learn and become productive members of society. The question remains as to why these youth reject the educational opportunities offered them when they know that without a high school diploma they have little chance of financial success.

Trevino (1991) stated that the foremost mission for educators and concerned citizens is to keep today's at-risk students from becoming tomorrow's dropouts. If this mission is to be carried out, communities, parents, schools, and teachers must reach at-risk students and keep them in school. Stevens and Price (1992) stated that the substantial population of students at risk means that teachers will face these children in their classrooms. Both teachers and administrators must ensure that the schools provide appropriate services for them. According to Weber and Sechler (1988), the time for placing more emphasis on studying successful dropout prevention programs and the critical elements that define those programs is past due. There is a growing body of research that suggests that the dropout problem can be addressed through improved

educational programming and that vocational education has an important role to play in any dropout prevention efforts.

## REVIEW OF THE LITERATURE

### Introduction

This section contains a review of the literature related to the impact of vocational education on student retention. A review of the history of vocational education, vocational education and student retention, the reasons for dropping out, the characteristics of successful dropout prevention programs, and examples of successful dropout prevention programs are included. A section regarding the impact of perceptions on curriculum and instructional delivery is also included.

### History

Vocational education began in ancient times. Parents and other adults taught children how to provide food, build a shelter, and perform other jobs. Through the centuries, the apprenticeship system of training developed. Under this system, a young person learned a craft or trade by working under a skilled craftsman (Mason & Haines, 1972). During the 1800s schools began to offer vocational education under such names as manual training and mechanical arts. Until then, apprenticeship had been the main form of job training (Hunt & Clawson, 1975).

Keeping students in school has been a problem ever since American schooling and compulsory attendance legislation were initiated on a mass scale in the 19th century (Hunt & Clawson, 1975). At the turn of the century, many solutions were given for the dropout problem. Educators in the early 1900s asserted that the curriculum had to be made more practical, and this contributed to the rise of vocational education. Worthington (1984) stated that during the 1900s the government officially recognized the need for vocational education in the high school; and as a result, the National Society for the Promotion of Industrial Education was formed during the early 1900s. Beginning about 1906, this society began a long-range promotion of vocational education (Worthington, 1984).

In 1916, Dudley M. Hughes of Georgia introduced H. B. 11250 which was sent to the House Committee on Education. When the bill was reported back to the House, it was accompanied by a report stating that the authors felt that the aspirations of most young people were denied in an educational world that prepared only the few for college. The dropout rate in the early years of schooling was deplorable. Not only did students leave without an adequate general education, but they had no special training to fit them for work. It was stated that vocational education courses would attract and hold students because they would be able to obtain suitable preparation for useful employment. Senator Hoke Smith of Georgia introduced the

bill in the Senate. President Wilson urged passage of the vocational education bill in his message to Congress on December 5, 1916:

> It contains plans which affect all interests and parts of the country, and I am sure there is no legislation now pending before the Congress whose passage the country waits on more thoughtful approval or greater impatience to see a great and admirable thing set in the way of being done. (Baruch, 1984, p. 240)

Shortly thereafter, the House version was accepted and the Smith-Hughes Act was passed in 1917. The National Society for the Promotion of Industrial Education had achieved its first major goal (Barlow, 1976). The Smith-Hughes Act served as the model for most subsequent education legislation that provided for cooperation between the states and the federal government. Although the act was limited to training in agriculture, trade and industrial education, and home economics, it had a most significant impact on America's educational system (Worthington, 1984). Current vocational programs trace their beginnings to the Smith-Hughes Act of 1917 (Baruch, 1984). The first efforts of vocational education were devoted to the needs of the nation in World War I. Following these efforts, vocational education turned to its primary mission of preparing people for work (Barlow, 1976).

Schools in the early 1920s were organized along the lines of vocational training (Linsdale, 1924). When it came to training society, however, only 1 student in 9 went to the eighth grade, 1 in 16 entered high school, and only 1 in

1,000 went through college which seemed to indicate that the educational system should be reorganized. Linsdale (1924) stated that the demand for vocational education meant there must be a more efficient, modified course to fit the conditions that existed in the early 1920s. These conditions forced students to leave school at the age of 16 or less, but he said that those who remained in school seemingly had no better abilities. He further stated that the success of vocational guidance was measured by the number of students it succeeded in finding jobs instead of by the number of students who were kept in school through vocational guidance until they were equipped to seek and find their own occupations.

By 1926, vocational education was beginning to make its mark upon the educational purposes of the nation. In 1929, a supplementary law--the George-Reed Act--was passed authorizing additional and increasing annual appropriations for 5 years for education in agriculture and home economics (Barlow, 1976).

Lack of employment opportunities should serve as an incentive to keep children in school in order to receive essential job skills (Cattell, 1933). President Roosevelt said,

> Industrial openings for young people between 14 and 16 are in most cases demoralizing rather than stimulating. Present educational provisions do not meet the needs of children up to 16. (Cattell, 1933, p. 754)

Cattell (1933) stated that educational programs must be enriched with industrial arts in order to meet the needs of children who normally drop out by age 16. Development of distinct vocational education in agriculture, commerce, industry, and the home was also needed.

In 1934, a second supplementary law--the George-Ellzey Act--was passed to replace the George-Reed Act. It authorized annual appropriations for 3 years beginning with 1935 for vocational education in the three fields for which the Smith-Hughes Act made provisions (Barlow, 1976). The Congress approved the George-Deen Act in 1936. The act authorized appropriations to agriculture, home economics, and trades and industries and added the distributive and marketing occupations to its appropriations (Mason & Haines, 1972).

During World War II, vocational schools operated around the clock to train the millions of workers needed for war production. Many soldiers had dropped out of school to join the military. The first G.I. Bill was the Servicemen's Readjustment Act of 1944, and benefits included education and training at government expense. In 1946, the Congress approved as a post-war measure the Vocational Act of 1946, most commonly known as the George-Barden Act. The act replaced the George-Deen Act. Funds for vocational education were authorized for agriculture, home economics,

trade and industry, and distributive occupations (Mason & Haines, 1972).

The Progressive Era, the Depression, and the volatile 1960s and 1970s were all periods of intense interest in vocational education. Grubb (1978) identified four recurring claims made by those who supported the growth of vocational education. One of these claims stated that vocational education provides a relevant curriculum for the 50% or more of the high school students not well suited to the academic, college-preparatory curriculum. The problems of alienation and dropping out have increased, and vocational education can help overcome these problems with its hands-on approach to learning (Grubb, 1978). In the 1940s and the 1950s, this approach came to be known as life adjustment education.

In the late 1950s, the dropout rate ranged from 20% to 40% in all 50 states, and the federal government assumed responsibility. One way they did this was to set up a panel to advise on the present condition of vocational education. The purpose of this panel was to upgrade and update the character and quality of vocational education, to guarantee that as the nation moves into the age of advanced technology, manpower needs would be met and people would be fully prepared (Ribicoff, 1961).

Title VIII of the National Defense Education Act of 1958 authorized appropriations for 4 years to support

programs limited exclusively to the training of highly skilled technicians in occupations recognized as necessary to the national defense. Allotments were made for agriculture, home economics, trades and industries, distributive occupations, and fisheries (Mason & Haines, 1972).

The federal government intensified its interest in public education in the early 1960s. Congress allocated substantial sums of money to help in developing and maintaining programs directly or indirectly related to the school dropout (Schreiber, 1968b). Another significant event in the development of vocational education was the establishment of President Kennedy's Panel of Consultants shortly after his election. This led to the development and passage of the Vocational Education Act of 1963 (Worthington, 1984). A message by President Kennedy prior to the passage of this act contained the following recommendation:

> That the pending vocational education amendments, which would greatly update and expand this program of teaching job skills to those in school, be strengthened by the appropriation of additional funds, with some of the added money earmarked for those areas which showed a high incidence of school dropouts and youth unemployment. (Barlow, 1976, p. 81)

The purpose of this act was to maintain, extend, and improve existing programs of vocational education, and to provide part-time employment for young people who need the earnings

from such employment to continue their vocational training on a full-time basis (Mason & Haines, 1972).

The National Education Association recognized in its project on dropouts five educational techniques adaptable to suit the needs of all communities (VanTil, 1965). One of these techniques is to give the potential dropout the opportunity to go to school and hold a job. Even more common than these work-study programs is vocational education. In 1965, the United States Commissioner of Education, Francis Keppel, warned that:

> By emphasizing the dropout problem, we may be led into thinking that any action which keeps youngsters in school is in itself good. The fundamental goal is to educate children not merely keep them in school. We misuse vocational education when we look to it alone to solve the problem. (VanTil, 1965, p. 132)

The 1968 Amendments to the Vocational Education Act provided new opportunity for vocational education to serve a larger segment of the population as these persons prepared to enter the labor force or to gain mobility in the labor force (Barlow, 1976). Vocational education was broadened to include research, curriculum development, personnel and leadership development, cooperative education, and work study (Worthington, 1984).

The dropout problem continued to be a serious one in American education in the early 1970s (Swanson, 1978). From the fifth grade through the twelfth grade, the aggregate dropout rate varied. However, there was no evidence that

the dropout rate was higher for vocational students than for academic students.

The Vocational Education Act of 1963 underwent a series of amendments in 1972 and again in 1976 and established a national data system, sex equity staffing at the state level, and programs for limited-English-speaking adults. Federal legislation aimed at the unemployed and hard-core disadvantaged emerged in the form of the Manpower Development and Training Act, the Comprehensive Employment and Training Act (CETA), and the Job Training Partnership Act (JTPA). All of the acts have had a significant impact on vocational education (Worthington, 1984).

Congress passed the Perkins Act in 1984. As a result, substantial federal funding for vocational education was directed to the poor, the disabled, and other special populations. The act was reauthorized in 1990, and it became the Carl D. Perkins Vocational and Technology Education Act. The very heart of the reauthorized Perkins Act was to help vocational education better prepare ordinary students, and it called for integrating academic and vocational education (Jennings, 1991). In the new Perkins Act, Congress gave vocational education both a challenge and an opportunity. The challenge was to reform vocational education so that it remains a powerful form of preparation for employment in a period when skill demands are changing. As part of the challenge to reform, the law required that

federal money be spent on programs through which students achieve both academic and occupational competencies (Grubb, 1991).

## Vocational Education and Student Retention

One of the most important ways vocational education can benefit at-risk students is by persuading them to stay in school long enough to graduate (Bishop, 1988). Pursuit of a vocational curriculum should permit a student to continue achievement of basic educational skills, training for leadership, and growth as a citizen (Willis, 1963). The vocational curriculum should help the youth who are not going to college to succeed in the next venture in society, just as the academic curriculum should help the youth who are going to college. Willis (1963) concluded that as the vocational curriculum provides for this objective, it contributes to a number of additional desirable results. It holds youth in school for a longer period, giving them an opportunity for additional academic and cultural experiences.

According to Kennedy (1988), vocational education has a role to play in efforts to solve the dropout problem. Students need options in what they study. Rather than expecting all students to take the same courses, vocational education expands the choices that students have before them. It offers them a different way to acquire and strengthen basic skills and different ways to pursue their

interests. Vocational education also helps students see the importance of education for employment. Theus (1971) stated that one way to combat dropping out is for schools to adopt better vocational programs. The sooner schools realize that college preparatory courses are worthless to a large number of students the better off everyone will be (Theus, 1971).

According to Evans (1971), one way vocational education achieved general education indirectly was by helping to keep students in school. Several studies have shown that half of high school freshmen want vocational education and half want college preparatory education (Evans, 1971). The half that wanted college preparatory work received it; but of those who wanted vocational education, only half received it. Data from Project Talent, which tested and followed-up 5% of students in United States high schools in 1961, showed that two thirds of all high school dropouts came from the general curriculum. Vocational education had a higher dropout rate than the college preparatory curriculum, and might have had a still higher rate if it enrolled those students who were assigned to the general curriculum. However, when student intelligence and socio-economic class were held constant, vocational education (except for programs conducted in socially segregated vocational high schools) appeared to have the lowest dropout rate of any high school curriculum. Research carried out in the 1960s showed a lower dropout rate for students in business programs than those in a

general curriculum or other vocational areas (Weisberg, 1983).

Mertens, Seitz, and Cox (1982) explored the retentive effects of vocational education on dropping out of high school. Data were gathered from the New Youth Cohort of the National Longitudinal Surveys of Labor Force Behavior (NLS Youth) supplemented by high school transcripts. It was found that the more vocational classes students took, the less likely they were to drop out of school. Mertens, et al. (1982) also found that taking and passing a vocational course in the 9th grade significantly lowered the dropout rate of dropout-prone students during 10th grade from about 9% to 6%. Taking one vocational course during each of the 3 preceding years lowered the 12th grade dropout rate from 20% to 14%. These results imply that consistently taking and passing one vocational course each year from 9th grade through 11th grade raises the high school completion rate of dropout-prone students from about 64% to 70% (Mertens, et al., 1982). In reference to the 1982 Mertens' study, Naylor (1987) stated that the relationship between vocational education and the choice to stay in school was, however, only statistically significant in Grades 10 and 12. The results were negative, but not significant, for Grade 11. Furthermore, the effect was quite small in both Grades 10 and 12 (Naylor, 1987). Miller and Imel (1987) offered some reasons for the size of the aforementioned effect by

pointing out that the casual exploration through vocational courses or work experience that is not related to learning goals is less effective in student retention than a major concentration in a vocational program.

Although corrective programs are important and necessary, schools should develop prevention programs to help dropouts before they leave school (Beck & Muia, 1981). Prevention measures at the high school level necessitate some curriculum changes. Because students have different needs, different programs should be offered. An academic course of study should be offered for the college-bound student, while vocational programs should be offered for those who plan to enter the work force. Probably the most important prevention program, however, is the occupational curriculum for students who are suited for unskilled labor (according to their aptitudes). In this curriculum, teaching strategies are varied since potential dropouts respond more readily to a variety approach rather than lecture. Also, students are grouped according to ability in required subjects, such as English and history (Beck & Muia, 1981).

Weber (1986) analyzed a sample of 2,000 dropouts and 3,000 graduates with similar characteristics from the High School and Beyond database. The students were surveyed in 1980 when they were sophomores and were resurveyed again in 1982. In this study, comparing dropouts with completers, a

positive correlation between participation in vocational education and high school retention was found. At the same time, however, the findings suggest that those who will become dropouts do not do much in the way of preplanning their high school programs, nor do they participate in the mainstream of vocational education. They were more likely to take exploratory courses such as consumer homemaking and industrial arts than job-skills courses; and, particularly in the ninth grade, they are often involved in work-study experiences that do not appear to be directly related to their overall program (Weber, 1986).

Analysis of longitudinal data supported to some degree the idea that vocational education students remain in school longer than students in the general program (Weisberg, 1983). Batsche (1985) stated that although the results of research are mixed, there are several indicators that vocational education has retentive ability. The more vocational classes potential dropouts take, the less likely they are to drop out of school (Batsche, 1985).

Prevocational programs reduce the dropout rate when the program focuses on clarifying career goals through vocational exploration (Batsche, 1985). Batsche (1985) stated that the availability of a trade and industrial program in a high school was associated with a low dropout rate. In addition, vocational education contributed to the

development of a positive self-image among potential dropouts.

Batsche (1985) also found that vocational education has promoted numerous practices that respond to the needs of dropouts including work study, cooperative educational opportunities, and sequential vocational programs. Weber (1986) stated that proponents of vocational education have argued that it represents one of the few educational alternatives that enable many youth, including potential dropouts, to become productive citizens and to lead fuller lives in our society.

Mertens (1986) stated that although the available research has shown that participating in vocational education is significantly related statistically to staying in school, the observed relationships are typically not sizeable enough to justify the conclusion that vocational education in and of itself significantly reduces the probability of dropping out of high school. According to Weber and Sechler (1988), research, however, suggested that the high school dropout rate can be reduced through improved educational programming, especially vocational education. The research also suggested that when vocational education and related work experience are both components of a dropout program, these programs are effective.

According to Sechler and Crowe (1987), vocational teachers play a vital role in helping students stay in

school. These teachers provide students the opportunity to learn basic skills through experience. They further stated that potential dropouts are more likely to finish 10th grade if they are enrolled in vocational classes. The dropout rate declined in the 11th and 12th grades if students had more than three vocational credits.

In Chicago, where some 43% of entering freshmen do not complete high school, it was found that students who have goals and students enrolled in career-vocational programs are less likely to drop out than those in traditional school programs (Azcoitia & Viso, 1987). In a study in which freshmen students were voluntarily placed in vocational programs for a minimum of one year, the dropout rate for the period of the study was reduced from 24% annually to 6%, with the only variable being enrollment of the students in vocational education. However, this 6% multiplied by 4 years accrues to 24% in the course of the 4 years. Still, the study confirms what other studies have shown; vocational preparation can spark students' interests and cause them to remain in school.

Spence (1987) stated that vocational education offers an alternative to an academically based curriculum. If embraced seriously, it could lead more students to stay in school and achieve the first priority of secondary education which is the development of strong learning and thinking skills. According to Valdiviesco (1987), potential dropouts

need a well-defined academic program that includes a vocational content requirement.

Louis Harris and Associates conducted its 1987 annual national study of attitudes toward education for the Metropolitan Foundation (Brannon, 1988). These findings have important implications for educational reform. The portion of the study that dealt with the dropout problem showed that parents and teachers believe that vocational education is positively related to dropout prevention.

Weber (1988a) conducted a study to resolve conflicting reports concerning dropout estimates presented in federal reports and research results gathered through the reanalysis of the High School and Beyond survey. The results of Weber's study (1988a) suggest that the dropout rate for students enrolled in general education is greater than for vocational education students.

According to Brannon (1988), vocational education works for youth while they are in school and after graduation. In North Carolina, almost half of the vocational education completers said that vocational education was the main reason they stayed in school. Kennedy (1988) stated that vocational education is a good and important education strategy that should be a key part of the national effort to solve the dropout problem. A growing body of research suggests that the dropout problem can be reduced through improved educational programming and that vocational

education has a role to play in such efforts (Weber & Sechler, 1988).

According to Edmunds (1988), vocational education is a critical ingredient in the school's ability to hold young people in the school system. He stated that in and of itself, vocational education cannot solve the dropout problem. To be most effective in dropout prevention, vocational education must be embedded in a system that includes a broad range of other critical elements. Specific courses of action should include: (a) counseling programs being restructured to emphasize career guidance for job-finding, and prevocational education experiences being interactively linked with the counseling program to assist students in making informed and appropriate decisions about careers; (b) vocational programs updating curriculum, equipment, and facilities and providing concrete experiences that accurately simulate workplace expectations; and (c) vocational education continuing to forge linkages with business and industry through work-site training programs and exhanges of students and faculty in order for potential dropouts to see the advantages of staying in school. Vocational education must remain committed to keeping as many youth in school as possible and to providing meaningful education and training experiences for those who enter vocational programs (Edmunds, 1988).

Get-tough retention policies and added graduation requirements appear to have raised the dropout rate in a number of cities because it was more difficult for students to find time for vocational education (Whitman, 1989). These reform efforts fail to help struggling students according to Albert Shanker (cited in Whitman, 1989), president of the American Federation of Teachers. He said that it is ridiculous to raise the hurdle for kids who are unable to jump it in the first place.

In a study conducted as a part of the National Assessment of Vocational Education, Bishop (1988) found that participating in vocational education had statistically positive effects for disadvantaged youths. Taking one vocational education course each year during the 4 years of high school was associated with a 6% increase in the graduation rate (Bishop, 1988). Vaughan (1991) stated that vocational education provides a concrete context for learning and reduces the number of dropouts. Research has shown that vocational education plays a role in preventing dropouts, benefits graduates in the work force, and benefits employers according to Worthington (1985).

Vocational education holds many of the answers to the educational and employment problems that this nation faces today. According to Brodhead (1991), one of the 1989 Education Summit goals that was adopted in 1989 by the governors was to reduce the dropout rate to 10%. To

succeed, even more hard-to-educate kids must be kept in school. Brodhead (1991) stated that research indicates that vocational education will be an important resource in meeting that goal.

Findings on school leaving, part of a 5-year study on the transition of youth with disabilities from secondary school to early adulthood, indicated that school interventions early in students' school careers and provision of occupationally oriented vocational education can reduce dropout rates in youth with disabilities (Wagner, 1991a). Wagner (1991b) used data from the National Longitudinal Transition Study of Special Education Students (NLTS), including a nationally representative sample of more than 8,000 students to determine the extent to which students with disabilities in regular secondary schools were involved in vocational education and whether these students exhibited better outcomes. The study examined vocational course taking by specific handicapping condition, course content, amount of vocational education, and demographic variables such as grade level, gender, and background. The findings indicated that students who were enrolled in occupationally oriented vocational education were more likely than nonparticipants to have positive outcomes. These students had significantly lower absenteeism from school and a lower probability of dropping out of school.

Feldman (1992) stated that vocational education is not something students are sentenced to when the school has given up on them as learners. Rather, he said that vocational education can be excellent and rigorous, and can motivate students to stay in school.

Well over 75% of the nation's high school students enroll in at least one vocational course. Yet, there are two different views about secondary vocational education: one that it is essential for achieving the kinds of societal outcomes needed over the next decade, the other that it is not. Virtually everywhere that school reform has taken hold in the high school curriculum, the results tend toward a single, demanding academic curriculum for all; no time can be spared for a concentration on vocational education. Yet, it appears that a widespread academic curriculum falls far short of meeting the needs of all students, and particularly of at-risk students (Weber, 1988b).

An opposing view of vocational education was expressed by Calabrese (1988). He stated that programs to retain potential dropouts have not been successful because they are not designed to serve the dropouts' interest. The programs focused on a strong vocational component, encouraged nontraditional learning, separated dropouts from their culture, and encouraged intimate personal relationships with teachers. The structure of retention programs may be inadvertently designed to channel minority students into

poor-paying, poor-security jobs, and to keep them off the streets. This structure fails to meet the needs of minority students.

Bishop (1988) stated it is very difficult to determine whether vocational education lowers the dropout rate because students who are at a higher risk of dropping out dislike academic subjects and thus tend to be attracted to vocational education programs. This means that vocational education's effects on retention cannot be measured without thoroughly controlling for grades, academic ability, alienation from school, and a host of other background characteristics (Bishop, 1988).

According to Weisberg (1983), the National Institute of Education (NIE) completed a 4-year study of vocational education in 1982 that stated that conclusions relative to the retentive ability of vocational education were premature. Also, the National Commission on Employment Policy (NCEP) completed a review of vocational education in late 1981 and concluded that there was no convincing evidence that males taking vocational education are less likely to drop out of high school than comparable students in the general curriculum (Weisberg, 1983). Weisberg (1983) stated that many supporters of vocational education claim that vocational education programs keep youth in school longer, but the literature is inconclusive in the matter.

Thus, there is limited evidence that secondary vocational education reduces dropouts.

Woodring (1989) stated that in the past, taking vocational education courses kept many students in school while preparing them for employment, but such programs do not solve the problems of today's dropouts. Courses that prepare students for the skilled trades, for secretarial work, or for scientific agriculture require intelligence and high levels of motivation; they are not designed for slow or reluctant learners.

Because less is known than is needed about dropouts, it is not surprising that there is uncertainty about the best way for vocational education to help in dropout prevention (Kennedy, 1988). It is necessary to determine whether changes in vocational instruction--such as decreasing class size, providing more individualized work, or paying more attention to remedial work--would improve the performance of those most at risk of dropping out. If changes are necessary, administrators and teachers must work together to ensure that the changes are made and implemented in order to better serve the at-risk student (Kennedy, 1988).

## Reasons for Dropping Out

Haas (1990) stated that students drop out of school, or perceive themselves pushed out, by a school system that just doesn't mean anything to them. Because students do not see a connection between the curriculum and what they perceive

as real life, they make a decision that seems perfectly clear to them to be what is best for them--drop out of school. This is particularly true of the non-college bound student (Haas, 1990).

Although each dropout is an individual whose reasons for dropping out are peculiar to each individual, studies have developed a picture of the average dropout (Schreiber, 1968b). The average dropout is just past his 16th birthday, has average or slightly below average intelligence, and is more likely to be a male than a female. This individual is functioning below potential, is below grade level in reading, and academically in the lowest quartile. The average dropout is slightly over age for the grade level. Although the average dropout is not in trouble with the law, this individual takes up a considerable amount of time with school administrators because of truancy and discipline. This student feels rejected by the school, and in turn, rejects the school. The average dropout states that the reason for leaving school is lack of interest (Schreiber, 1968b).

Ramirez (1990) stated that there are some factors about schools themselves that cause students to drop out. One of the key factors is alienation; some students do not feel wanted in school. This may come as a result of race, ethnicity, socioeconomic status, or some other reasons. Schools are structured in such a way that many students are

destined to fail. The standard school structure allows little flexibility in scheduling and earning credit. The needs of students are often not being met; thus, schools are contributing to the dropout problem (Ramirez, 1990).

Combs and Cooley (1969) conducted a study in 1968 and found that 51% of freshmen who later dropped out of high school wanted a vocational curriculum, but only 23% were admitted to the program. In contrast, 48% of freshmen who later completed high school, but did not go on to college, wanted vocational education, and 43% received it.

A review of policy initiatives since 1983 revealed that 70% of the states have enacted or approved stiffer graduation requirements, and 58% have placed a greater emphasis on academic enrichment programs. Secondary educators across the United States are striving to inject new rigor and higher standards into their curriculum. At the same time, some observers object to curricular policy that requires more academic courses and fewer electives without permitting the substitution of practical or vocationally oriented courses for core requirements. These observers contend that such policy ignores the differences that exist among children--it poses a threat to minority students who need job training, it may cause dropout rates of school districts to rise, and it neglects the general need for courses that are immediately practical in the job market (Toles, Schulz, & Rice, 1986).

One reason students drop out is that they are not suited for the regular academic high school (McCarthy, 1980). In New York, 9,300 students applied for vocational programs for which exams were not required. But only 3,800 places were available. The dropout survey, conducted by the New York City Board of Education, found that frustration over being in the wrong kind of school was a significant factor in a student's decision to drop out.

Not all students are suited for college; some prefer to learn a trade and enter the working world (Welch, 1988). If these students are forced into an academic mold, they are likely to become frustrated and drop out of high school. These people deserve an education suited to their interests and goals.

In Braxton County, West Virginia, almost 95% of their 800 students are enrolled in vocational educational programs of one sort or another. In this state, however, there is a statewide initiative to cut back on vocational funding. According to DeYoung, Huffman, and Turner (1989), this is expected to have serious consequences for the high school completion rates in Braxton County. Bottoms and Copa (1983) stated that evidence has suggested that the growing dropout rate in cities may be linked to a failure to provide sufficient access to vocational programs.

## Characteristics of Successful Dropout Prevention Programs

A number of characteristics of successful dropout prevention programs have been identified in the literature. A study conducted by Weber (1987) examined the relationship between students' vocational and nonvocational experiences while in high school and their decision to drop out. The study was based on data from the sophomore cohort of the High School and Beyond database (a longitudinal, nationally representative sample of approximately 27,000 students who were sophomores in 1980 and seniors in 1982), and information was obtained from interviews with representatives of nine dropout prevention programs that were identified as exemplary by their respective state departments of education. It was concluded that dropout prevention programs should (a) have a committed staff, (b) use a variety of integrated strategies, (c) be individualized in a nontraditional environment, (d) share a strong vocational job-related emphasis, and (e) have a strong counseling component. Dropout-prone students need extensive career exploration experiences and should be encouraged to participate in vocational programs in a meaningful way (Weber, 1987).

Lotto (1982) discussed 17 dropout-prevention programs emphasizing vocational education for which evidence of holding power has been collected. There were three common characteristics found in these programs. First, each used a

variety of strategies rather than depending on only one approach, and these strategies were well integrated. Second, all of the programs removed potential dropouts from their ordinary schools and placed them in different kinds of environments. Third, the participants constituted a small population for which resources were narrowly targeted and concentrated.

The National Center for Research in Vocational Education at Ohio State University carried out a national survey, "The Dynamics of Secondary Classrooms," that can help determine to what degree the typical high school classroom supports the education and developmental needs of at-risk students (Weber, 1988b). The resulting data provided a means of comparing the characteristics of model dropout prevention programs with those of vocational and nonvocational classrooms. An important finding was that the typical vocational classroom offers a number of educational experiences for at-risk students that are similar in some respects to those used in exemplary dropout prevention programs, although certain areas clearly need improvement. According to Weber (1988b), these educational experiences include but are not limited to: (a)lower teacher/pupil ratios, (b) individualized classes, (c) more active role for students, and (d) recognition and special awards for student performance.

A review of research on successful dropout prevention programs revealed four common characteristics: (a) They separate potential dropouts from other students; (b) They have strong vocational components; (c) They utilize out of classroom learning; and (d) They are intensive in the sense of being small, individualizing instruction, having low student-teacher ratios, and offering more counseling than ordinary schools (Hamilton, 1986). Naylor (1987) stated that the vocational experiences that are most closely related to reducing the dropout rate include the following: (a) more systematic and intense efforts to identify and help potential dropouts before or at entry into vocational programs, (b) more career exploration prior to high school, (c) improvement of transitions through a vocational program to direct dropout-prone students to job-specific skill training courses, (d) linking work-study experiences with students' programs and objectives, (e) alignment of work-study programs to students' overall school plans and goals, and (f) activities to increase dropout-prone students' participation in vocational programs and to enhance linkages between these programs and other school experiences.

Coyle-Williams (1989) stated that components of vocational education programs successful at retaining students include mechanisms for helping at-risk youth to follow normal transitional paths through vocational programs and to take advantage of the job training aspects of those

programs. Coyle-Williams (1989) suggested that vocational education's contribution to the successful transition of disadvantaged youth may be improved by (a) providing counseling and exploration prior to placement, (b) expanding cooperative education, (c) integrating academic and vocational course work, and (d) helping students obtain jobs.

According to Smith and Ament (1990), studies have identified components of a vocational curriculum most associated with retention. These include: (a) teacher control of curriculum, (b) small class size, (c) individualization, (d) student recognition, and (e) work experience. Improving the retentive quality of vocational education should include acquisition of academic skills in the vocational education curriculum, early participation in career exploration and guidance programs, relevant introductory occupational education experiences, and provision of appropriate and relevant work-study experiences (Smith & Ament, 1990).

Vocational education is no panacea for reducing the alarming dropout rate (Azcoitia & Viso, 1987); but coupled with support services, vocational programs can give dropout-prone students new opportunities for success. These programs help to bolster self-confidence and enhance self-esteem. Courses must be representative of real-life situations so that students can readily see the purpose and

usefulness of what they are learning. The integration of math and communication with vocational training should take place. Vocational classes and labs must emulate the conditions of the work environment. If all of these ingredients are present, then vocational education can play a major role in dropout prevention (Azcoitia & Viso, 1987).

## Examples of Successful Dropout Prevention Programs

The literature contains many examples of vocational programs that have been successful in keeping students from dropping out of school (Naylor, 1987). These programs may be run by schools exclusively, may be based on a school-business partnership, or may even involve counseling to parents. Among these programs are: (a) academy models, (b) cooperative education, (c) work study, and (d) apprenticeships.

### Academy Model

There are a number of approaches to integrating vocational education and academic education that have been successful in dropout prevention. One such approach is the academy model. This approach to integration involves coordinating or aligning the content of academic and vocational courses so that the content of both changes. This happens when academic and vocational teachers reinforce each others' content, when teachers develop common projects to explore in both academic and vocational classes, or when schools develop coherent sequences of academic and

vocational courses (Grubb, 1991). Lotto (1982) stated that some dropout and delinquency programs have shown that self-designed and self-paced curricula that integrate vocational and academic subjects with work experience are promising because they enable the at-risk student to acquire salable skills and to perceive that school is relevant to the workplace.

According to Grubb (1991), academies are schools within schools and typically link English, science, math, and vocational teachers in such subjects as business, electronics, computers, or advanced technology. The four instructors teach the same students. Academies have many components, and their success in reducing dropout rates may be attributed to any or all components.

Philadelphia's High School Academies Program, a three-year high school program for at-risk students, is designed to provide students with incentives both to graduate and to acquire labor market-relevant skills. The school district works with business and industry to provide a comprehensive academic education and career training program in automotive mechanics, electronics, business, and health (Kennedy, 1988). According to Naylor (1987), this academy program encourages parent involvement in career counseling and planning.

The Philadelphia's High School Academies Program provides potential high school dropouts with the kind of

education that can make a difference in their lives by integrating vocational/technical training with needed skills in oral and written communication, mathematics, and other academic areas; training for jobs that exist in their community; and development of employability skills such as good work habits and how to apply for a job. It is a program designed for the students most in need of such an education--the disadvantaged youth who are most likely to drop out of school and join the ranks of the unemployed (Dayton & Reller, 1987).

The High School Academies Program in Philadelphia has been evaluated by means of a longitudinal study conducted over the past 5 years by the American Institute for Research (AIR), under a grant from the William and Flora Hewlett Foundation. Annually, AIR staff members surveyed students, parents, teachers, and business community personnel to assess the impact of the program. At the end of the fifth year (July, 1986), AIR concluded that the Philadelphia's Academies Program had accomplished most of its original goals. For example, in 1985, 94% of the Academies seniors graduated, while only 79% of the matched comparison group seniors did so (Dayton & Reller, 1987).

In 1981, the Peninsula Academies of California established a replication of the Philadelphia's Academies Program. These academies, called the Peninsula Academies of Electronics and Computer Technology, accepted

underachieving 10th graders into an educational program that combined hands-on instruction in electronics and computer operations with a solid foundation in basic academic skills. These students started on a carefully structured 3-year course of study that emphasized personal responsibility and the kind of work skills and habits valued by employers. According to Reynolds (1984), the performance of these Peninsula Academies was assessed for the program's third year of operation in two schools in the Sequoia Union High School District. Data were collected for 190 Academy students and for a comparison group of non-Academy students. The school dropout rates for Academy versus non-Academy 10th-grade students were about the same; but at the 11th- and 12th-grade levels, only about one third as many Academy students dropped out. The work experience component was one of the most successful components (Reynolds, 1984). Three classes have graduated and entered the work force, and the program is a regular part of the school district's programs (Dayton & Reller, 1987).

In the fall of 1985, 10 academy programs were established by the state of California as replications of the Peninsula Academies that had been in operation in a local school district in Philadelphia for 4 years (Dayton, Weisberg, Stern, and Evans, 1988). These replications were called Partnership Academies. In the first year of operation, the academies in California reduced dropouts of

at-risk high school students. Academy students improved their retention from 5% to 15%. However, improvements are needed in program operations and evaluation procedures (Dayton, Reller, & Evans, 1987). In a report evaluating the academies in California for the 1986-87 school year, Dayton, et al. (1988) found that overall, the academies have been successful in helping students compile better academic records but appear to have no significant effect on attendance and dropout rates.

During the 1987-88 school year, 12 academy programs were operating in California under state sponsorship, including the two original Peninsula Academies in operation since 1981, and 10 replications of these (Dayton, Weisberg, & Stern, 1989). The academies were designed to reduce the number of dropouts among at-risk high school youth. Findings indicate that the academy program model is capable of producing substantial positive effects including retention for students who participate.

Stern (1989) and his colleagues studied 11 "academy" programs. For each group of academy students, the researchers identified a comparison group of students similar in race, sex, poor attendance rates, insufficient course credits, below average standardized test scores, and low grades. Then they determined how each of the 11 pairs of academy and comparison groups differed in subsequent attendance, courses failed, grade point averages, credits

amassed, and probability of dropping out. They also ascertained the percentage of known dropouts, probable dropouts, and transfers in each group. In addition, they estimated the numbers of dropouts prevented by comparing the predicted and the actual numbers of dropouts in each academy, the cost (in dollars) per dropout saved, and the benefits (to society and taxpayers) of the dropouts saved by each academy.

Gage (1990) stated that overall results of the studies conducted on academies have favored the academies substantially, and the benefits greatly exceeded the costs. These experiments strongly support the feasibility, desirability, and cost effectiveness of the academy approach to reduce the dropout problem. However, the academies differed considerably in their effectiveness. The differences indicated the need for further correlational research that would reveal how the more effective academies differed from the less effective ones. The resulting information would suggest ways to strengthen future academies. These ways could be tested in new experiments.

**Work Study, Cooperative Education, and Apprenticeship Programs**

As early as 1966, successful dropout programs have all included some type of work program as part of the solution to the dropout problem (Schreiber, 1968a). Mason and Haines (1972) defined work study as a program in which students who are enrolled in vocational curricula are also employed part

time during school hours; however, the work situation normally is not correlated with the in-school vocational instruction. They defined cooperative education as a program in which students are enrolled in a vocational curiculum and are placed in a training station according to a specific career goal, and the learning experiences are closely correlated with the school training.

Schreiber (1968a) stated that if students need to feel successful then schools must provide successful activities by offering alternatives to the academic programs. Schools have a responsibility to provide work experience programs for all of their students if work experience brings success to them. According to Batsche (1985), work-study and cooperative education programs motivate potential dropouts to attend school more frequently than general academic programs.

Cooperative education has been found to be beneficial to students, schools, and cooperating organizations alike (Irvine & Irvine, 1985). Research has shown that, by coordinating work experience with school educational programs, cooperative education achieves several things: (a) It better prepares students for participation in the labor market, (b) It increases student motivation, (c) It improves students' human relations skills, and (d) It reduces the number of dropouts (Irvine & Irvine, 1985).

Ford (1991) stated that work-study programs seem to be a factor in a school's holding power. Work-study programs provide economically disadvantaged youth with a means for providing for their families and remaining in school and provide a means for students to increase their self-esteem. Diversified Cooperative Training (DCT), a work-study program, provides the components that may increase the school's holding power. DCT programs that are run well can provide a last chance for students to remain in school and become successful individuals.

According to Clinton (1991), every community in every state should develop more school-to-work programs. He stated that the best alternative is to develop an American version of European apprenticeships that would blend vocational and academic education in high school and thus provide students meaningful work experience. Clinton (1991) further stated that many students who are working in high school are failing and many of them will eventually drop out because school is irrelevant to them. If these students were placed in a good apprenticeship program, the program would create an incentive for young people to stay in school. The apprenticeship system is probably the only way America can obtain a 90% on-time graduation rate because it will meet the needs of students who are not being served by the present education system (Clinton, 1991).

**Other Programs**

There are other exemplary vocational education programs designed to keep at-risk students in school. One such program is the Occupational Proficiency Training Program (OPT) that was initiated in Mitchell County High School, Georgia, to identify potential dropouts and place them in an alternative vocational education program (Bergquist, 1983). One objective of the OPT program was to decrease the dropout rate for these students. The results of the study indicated that the program was effective in keeping OPT students in school longer than the comparable non-OPT group. Overall, the program was rated as successful for its ability to keep students in school where they could acquire employment skills.

Many individual schools and all school districts in and around Colorado Springs, Colorado, have special programs designed to keep students in school. These programs come in many different forms. In some vocational programs, for example, students can earn academic credit for such courses as auto mechanics or welding, or for work-study combinations in which they earn credit for holding down paying jobs from being a waitress to managing a store. Not everyone admits that either program was created to prevent dropouts; but everyone involved with them agrees that because of these programs, students who 30 years ago would have dropped out

of school to join the work force are now in school--at least for part of the day (Yaffe, 1982).

The Career Opportunity Paths in Education (COPE) program instituted at Woodland High School in California in the mid-1980s represented a radical reorganization of the school's curriculum in order to tie school work to the work students will do once they leave school (Wilcox, 1991). Aided by a comprehensive guidance program in which students identify occupational interests during their junior high years, students remain focused on their career goals throughout high school. A 4-year curriculum plan guides students in the selection of vocational and academic courses, work-study opportunities, and extracurricular activities. Ninety-three percent of the school's students take vocational education as an essential component of their studies. College-bound students take more vocational courses at Woodland, and vocational students take more academic courses. Academic and vocational courses are not alternative instructional strategies--they are complementary. One survey conducted by the guidance staff found that 65% of all students enrolled in the school were at risk and 34% of the school population were minority students. While many teachers worried that they were in danger of losing students, the COPE program was designed to prevent this. Since COPE began, the school dropout rate has declined 38% (Wilcox, 1991).

Some educators have seen joint efforts between academic and vocational teachers in teaching at-risk students as productive in dropout prevention (Weber & Sechler, 1988). One exemplary program was established by the Pioneer Joint Vocational Schoool in Shelby, Ohio. Funded by the Ohio Department of Education, Program Options at Pioneer is used to help bridge the gap between academic and vocational classes. Another program, "The Principles of Technology" curriculum project of the Center for Occupational Research and Development and the Agency for Instructional Technology, is designed to help vocational education respond to the rapid technological advances (Selland, 1986). According to Weber and Sechler (1988), the National Center for Research in Vocational Education has developed a support package of materials "BASICS," to assist schools in bridging vocational and academic skills. These joint effort approaches appear to hold much promise for assisting at-risk students. If joint efforts are used in conjunction with peer tutoring, flexible scheduling, vocational student organizations, and school-family-employer interactions, vocational education represents an important resource in dropout prevention (Weber & Sechler, 1988).

Wells, Springer, and McCready (1987) conducted an 8-week summer program to prevent 80 high-risk youth from dropping out of school. The 32 females and 48 males selected for the project were identified by their school

counselors as being at risk of dropping out and were all residents of rural areas of northern Louisiana. The program included three components: (a) academic education, (b) vocational education, and (c) counseling services. Each student received instruction in language arts and mathematics as well as 20 hours of on-the-job training. All 80 participants registered for the following fall semester.

To increase students' chances of remaining in school, the Chicago Public Schools, with assistance from the State Office of Vocational and Technical Education, have created a vocational support services team for disadvantaged, handicapped, and limited English proficient youth. Young people enrolled in vocational programs are provided a variety of services to help them succeed. The program is 5 years old and has apparently made a difference (Azcoitia & Viso, 1987). Of the students who received assistance through the Bureau of Vocational Support Services during the 1985-86 school year, only 2% dropped out of high school.

In many exemplary dropout prevention programs, vocational education and related work experiences are coupled with other critical components. Cincinnati's Occupational Work Adjustment Program and Baltimore's Security Education Employment Program (Kennedy, 1988) combine academic instruction with high quality vocational training. Such programs help students see the importance of studying hard and staying in school. Tying vocational

programs to general education helps students see the value of obtaining a diploma.

At-risk students served by vocational education in North Carolina include academically disadvantaged students, dropouts, students with limited English proficiency (LEP), pregnant teens, single parents, migrants, economically disadvantaged students, handicapped students, and potential dropouts (Serving at-risk students through vocational education: A process, not an event, 1989). Among students enrolled in vocational programs, 49% of disadvantaged students, 56% of handicapped students, and 53% of LEP students said these programs were a main reason they remained in high school. Vocational education in North Carolina offers support services, job placement services, and programs for pregnant and parent teenagers.

During the 1988-89 school year, the Kaufmann Independent School District in Texas developed a model program for students at risk of dropping out of school (English & Edwards, 1989). The program linked a vocational program, an at-risk program, and a current basic skills instructional program. The program was entitled "To Allow Pupils to Succeed" (TAPS), and its goal was to produce high school graduates with marketable skills who can be integrated within society. Approximately 122 at-risk students volunteered to participate, and 77 remained in the program throughout the year. The program was evaluated

through comparisons of test scores, evaluation of dropout and passing rates, and surveys of teachers, counselors, administrators, students, and parents. The program halved the dropout rate for those who participated.

Project Success is an innovative project for serving at-risk secondary education students enrolled in vocational education in Georgia. It is based on a school within a school concept. A select team of vocational and academic teachers employ a blocked schedule approach to integrate vocational/technical and academic instruction for 60-80 students identified according to a set of criteria as at-risk students. This team approach is designed to (a) remediate for basic and life skills, (b) support students not able to succeed in vocational programs, (c) deter potential dropouts, and (d) assist students with their future plans. During the 1990-91 school year, Project Success was able to produce a dropout rate that was significantly less than that produced in the regular school setting (Project Success, 1992).

Tech Prep is a program in which high school students with an interest or aptitude in pursuing advanced technical training are placed in programs that prepare them for more advanced training at a community college or technical school after they graduate from high school (Scott, 1991). According to Scott (1991), Tech Prep is flourishing in the North Carolina region of Pee Dee. The Richmond County

Schools and Richmond Community College began a joint venture in 1989 called the Pee Dee Tech Prep Program. Since that time several other school systems in North Carolina have started Tech Prep programs. In the 6 years that the Pee Dee Tech Prep Program has been in operation, SAT scores have risen and dropout rates have fallen (Scott, 1991). Many other states have also initiated Tech Prep programs.

A project initiated in Knox County, Tennessee, has identified and addressed a concern of education: preventing dropout among teen parents for lack of adequate and affordable child care (Ripp, 1992). Teenagers in this county were getting pregnant and having children and not completing school. The purpose of the program was threefold: (a) to provide teen mothers and fathers with reliable and inexpensive child care during school hours in the form of a home economics class that would help the teen parents, as well as other students, to learn what parenthood is really like; (b) to allow motivated students to make wise decisions about postponing parenthood; and, (c) for those who were parents already, to teach them some positive parenting skills and knowledge about child development. The results of surveys completed on the Knox County program indicated the program had been successful in reducing the dropout rate among teenage girls.

**Impact of Perceptions on Curriculum and Instructional Delivery**

It is important to understand how vocational instructors, vocational education supervisors, and principals view vocational education and its impact on influencing retention. Because these three groups have different roles and responsibilities and different levels of training, three perceptions regarding vocational education and its impact on student retention can be obtained. There are studies that show that training, experience, and position influence how individuals perceive education as well as educational delivery systems. It is important to understand how principals and supervisors as decisionmakers view vocational education as a positive influence on retention and to see if instructors differ in their perceptions. This could influence the structure and decisions regarding curriculum and instruction in vocational education. According to Luenburg and Orstein (1991), a study was conducted by the National Assessment of Education Progress (NAEP). It was found that school administrators may study variables such as teacher's educational background and administrator's background in order to associate variations in student achievement among their school districts and/or schools. The teacher's educational background variable might include such things as major field of study, highest degree earned, and type of institution. The administrator's background variable might include years

of experience, ratio of students to school administrators, educational background, and salary. This NAEP report implied that major fields of study and level of education can influence attitudes, practices, and achievement levels. Sergiovanni and Carver (1980) found that variables such as level of education and educational background can have an influence on the perceptions and the values that instructors and administrators hold about education and educational programs.

## Summary

This chapter has presented a review of the literature related to the impact of vocational education on student retention. A number of researchers found that various types of vocational education programs and approaches have been successful in keeping students in school. Other researchers found that vocational education played a role in student retention only when coupled with other components such as work experience. Several other researchers found that with increased graduation requirements and thus limited access to vocational education the dropout rate increased. A limited number of researchers stated that the evidence was inconclusive that vocational education has an impact on student retention, and a small number of researchers found that vocational education had either a negative impact or no impact on keeping students in school. Table 1 provides an illustration and accessible summary of what authors have

written about vocational education and student retention. The literature also addressed the impact of perceptions of different groups of educators on curriculum and instructional delivery.

TABLE 1

ILLUSTRATION AND SUMMARY OF AUTHORS' FINDINGS REGARDING THE IMPACT OF VOCATIONAL EDUCATION ON STUDENT RETENTION

| AUTHOR | VOCATIONAL EDUCATION IMPACTS STUDENT RETENTION | VOCATIONAL EDUCATION HAS NO OR NEGATIVE IMPACT ON STUDENT RETENTION | SPECIFIC COMPONENTS OF VOCATIONAL EDUCATION IMPACT STUDENT RETENTION | EVIDENCE INCONCLUSIVE ON IMPACT OF VOCATIONAL EDUCATION ON STUDENT RETENTION | LIMITED ACCESS TO VOCATIONAL EDUCATION LOWERS RETENTION |
|---|---|---|---|---|---|
| Cattell (1933) | X | | | | |
| Willis (1963) | X | | | | |
| Van Til (1965) | X | | | | |
| Schreiber (1968) | | | X | | |
| Combs & Cooley (1969) | | | | | X |
| Evans (1971) | X | | | | |
| Theus (1971) | X | | | | |
| McCarthy (1980) | | | | | X |
| Beck & Muia (1981) | X | | | | |
| Mertens, Seitz, & Cox (1982) | X | | | | |
| Yaffe (1982) | | | X | | |
| Lotto (1982) | | | X | | |

**TABLE 1** (Continued)

| AUTHOR | VOCATIONAL EDUCATION IMPACTS STUDENT RETENTION | VOCATIONAL EDUCATION HAS NO OR NEGATIVE IMPACT ON STUDENT RETENTION | SPECIFIC COMPONENTS OF VOCATIONAL EDUCATION IMPACT STUDENT RETENTION | EVIDENCE INCONCLUSIVE ON IMPACT OF VOCATIONAL EDUCATION ON STUDENT RETENTION | LIMITED ACCESS TO VOCATIONAL EDUCATION LOWERS RETENTION |
|---|---|---|---|---|---|
| Bergquist (1983) | | | X | | |
| Bottoms & Copa (1983) | | | | | X |
| Weisberg (1983) | X | | | | |
| Reynolds (1984) | | | X | | |
| Batsche (1985) | | | X | | |
| Irvine & Irvine (1985) | | | X | | |
| Hamilton (1986) | | | X | | |
| Mertens (1986) | | | | X | |
| Selland (1986) | | | X | | |
| Toles, Schulz, & Rice (1986) | | | | | X |
| Weber (1986) | X | | | | |
| Azcoitia & Viso (1987) | | | X | | |
| Dayton & Reller (1987) | | | X | | |

**TABLE 1** (Continued)

| AUTHOR | VOCATIONAL EDUCATION IMPACTS STUDENT RETENTION | VOCATIONAL EDUCATION HAS NO OR NEGATIVE IMPACT ON STUDENT RETENTION | SPECIFIC COMPONENTS OF VOCATIONAL EDUCATION IMPACT STUDENT RETENTION | EVIDENCE INCONCLUSIVE ON IMPACT OF VOCATIONAL EDUCATION ON STUDENT RETENTION | LIMITED ACCESS TO VOCATIONAL EDUCATION LOWERS RETENTION |
|---|---|---|---|---|---|
| Dayton, Reller, & Evans (1987) | | | X | | |
| Miller & Imel (1987) | X | | | | |
| Naylor (1987) | | | X | | |
| Sechler & Crowe (1987) | X | | | | |
| Spence (1987) | X | | | | |
| Valdiviesco (1987) | X | | | | |
| Weber (1987) | | | X | | |
| Wells, Springer, & McCready (1987) | | | X | | |
| Dayton, Weisberg, Stern, Evans (1987) | | X | | | |
| Bishop (1988) | X | | | | |
| Brannon (1988) | X | | | | |
| Calabrese (1988) | | X | | | |

**TABLE 1** (Continued)

| AUTHOR | VOCATIONAL EDUCATION IMPACTS STUDENT RETENTION | VOCATIONAL EDUCATION HAS NO OR NEGATIVE IMPACT ON STUDENT RETENTION | SPECIFIC COMPONENTS OF VOCATIONAL EDUCATION IMPACT STUDENT RETENTION | EVIDENCE INCONCLUSIVE ON IMPACT OF VOCATIONAL EDUCATION ON STUDENT RETENTION | LIMITED ACCESS TO VOCATIONAL EDUCATION LOWERS RETENTION |
|---|---|---|---|---|---|
| Edmunds (1988) | | | X | | |
| Kennedy (1988) | | | X | | |
| Weber (1988a) | X | | | | |
| Weber (1988b) | X | | | | |
| Weber & Sechler (1988) | | | X | | |
| Welch (1988) | | | | | X |
| Coyle-Williams (1989) | | | X | | |
| Dayton, Weisberg, & Stern (1989) | | | X | | |
| DeYoung, Huffman, & Turner (1989) | | | X | | |
| English & Edwards (1989) | | | X | | |
| Stern (1989) | | | X | | |

**TABLE 1** (Continued)

| AUTHOR | VOCATIONAL EDUCATION IMPACTS STUDENT RETENTION | VOCATIONAL EDUCATION HAS NO OR NEGATIVE IMPACT ON STUDENT RETENTION | SPECIFIC COMPONENTS OF VOCATIONAL EDUCATION IMPACT STUDENT RETENTION | EVIDENCE INCONCLUSIVE ON IMPACT OF VOCATIONAL EDUCATION ON STUDENT RETENTION | LIMITED ACCESS TO VOCATIONAL EDUCATION LOWERS RETENTION |
|---|---|---|---|---|---|
| Whitman (1989) | | | | | X |
| Woodring (1989) | | X | | | |
| Gage (1990) | | | X | | |
| Smith & Ament (1990) | | | X | | |
| Brodhead (1991) | X | | | | |
| Clinton (1991) | | | X | | |
| Ford (1991) | | | X | | |
| Grubb 1991) | | | X | | |
| Scott (1991) | | | X | | |
| Vaughan (1991) | X | | | | |
| Wagner (1991) | | | X | | |
| Wilcox (1991) | | | X | | |
| Feldman (1992) | X | | | | |
| Ripp (1992) | | | X | | |

## REFERENCES


A million random digits with 100,000 normal deviates. (1983). New York: Rand.

America 2000: An education strategy. (1991). Washington, D.C.: U.S. Department of Education.

Azcoitia, C., & Viso, P. A. (1987). Dropout prevention Chicago style. Vocational Education Journal, 62 (2), 33-34.

Bainbridge, W. S. (1989). Survey research: A computer-assisted introduction. Belmont, CA: Wadsworth.

Barber, L., & McClellan, M. (1987). Looking at America's dropouts: Who are they? Phi Delta Kappan, 69 (4), 264-267.

Barlow, M. L. (1976). 200 years of vocational education 1776-1976. American Vocational Journal, 51 (5), 21-95.

Baruch, J. (1984). 'Voc ed' drifts along: Will we rethink a major educational program? Commonwealth, 111, 240-241.

Batsche, C. (1985). The high school drop out: Vocational education can help. (Research report). Normal: Illinois State University.

Beck, L., & Muia, J. A. (1981). Potential high school dropouts. The Education Digest, 46 (7), 16-19.

Bergquist, C. C. (1983). Occupational proficiency training program: 1982-83 final report. Tallahassee, FL: Education Systems.

Bishop, J. (1988). Vocational education for at-risk youth: How can it be made more effective (Working Paper 88-11), Ithaca: State University of New York.

Bottoms, G., & Copa, P. (1983). A perspective on vocational education today. Phi Delta Kappan, 64, 348-354.

Brannon, D. R. (1988). Our piece of the dropout puzzle. Vocational Education Journal, 63 (6), 12-13.

Brodhead, C. W. (1991). Image 2000: A vision for vocational education. Vocational Education Journal, 66 (1), 22-25.

Calabrese, R. L. (1988). Schooling, alienation, and minority dropouts. The Education Digest, 54 (2), 7-10.

Cattell, J. (Ed.). (1933). The need for vocational education. School and Society, 37, 754-755.

Catterall, J. J. (1985). On the social costs of dropping out of school. Stanford, CA: Stanford Education Policy Institute, School of Education, Stanford University.

Clinton, B. (1991). Apprenticeship American style. Vocational Education Journal, 66, (7), 22-23.

Combs, J., & Cooley, W. (1969). Dropouts: In high school and after school. American Educational Research Journal, 5 (3), 343-363.

Coyle-Williams, M. (1989). What works in vocational education for students who are at risk. (Review of the Literature). Berkeley, CA: National Center for Research in Vocational Education. (ERIC Document Reproduction Service No. ED 313 535)

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16, 297-334.

Day, B., Anderson, J., & Russell, E. (1992). Assessing the challenge ahead. The Delta Kappa Gamma Bulletin, 58 (4), 5-10.

Dayton, C. W., & Reller, D. J. (1987). A training partnership for high-risk youth. Vocational Education Journal, 62 (2), 34-36.

Dayton, C. W., Reller, D. J., & Evans, J. (1987). Peninsula Academies replications: 1985-86 evaluation report (Evaluation Report). Berkeley: Policy Analysis for California Education.

Dayton, C. W., Weisberg, A., & Stern, D. (1989). California Partnership Academies: 1987-88 report. Berkeley: Policy Analysis for California Education.

Dayton, C. W., Weisberg, A., Stern, D., & Evans, J. (1988). Peninsula Academies report 1986-1987 (Evaluation Report). Berkeley: Policy Analysis for California Education & Palo Alto: William & Flora Hewlett Foundation.

DeYoung, A. J., Huffman, R., & Turner, M. E. (1989). Dropout issues and problems in rural America, with a case study of one central Appalachian school district. Dropouts from school. Ithaca: State University of New York Press.

Edmunds, N. (1988). Our commitment to at-risk students. Vocational Education Journal, 63 (6), 11.

English, K., & Edwards, M. (1989). T.A.P.S. to allow pupils to succeed: A model program for at-risk students linking vocational education and alternatives to social promotion (Final Evaluation Report). Kaufmann Independent School District, Texas.

Evans, R. N. (1971). Foundations of vocational education. Columbus: Charles E. Merrill.

Feldman, M. (1992). Voices of change. Vocational Education Journal, 1 (2), 23-24.

Ford, A. (1991). Holding power: Diversified cooperative training for at-risk students. The Delta Kappa Gamma Bulletin, 57 (3), 28-31.

Gage, N. L. (1990). Dealing with the dropout problem. Phi Delta Kappan, 72, 280-285.

Gay, L. R. (1987). Educational Research. Columbus: Merrill.

Georgia Board of Education, Policy Code IDAA, 160-4-3-.02.

Georgia Public School Directory 1993. (1992). Atlanta: Georgia Department of Education, Office of Special Services, Public Information and Publications Division.

Grubb, W. N. (1991). The challenge to change. Vocational Education Journal, 66 (2), 24-26.

Grubb, W. N. (1978). The phoenix of vocational education: Implications for evaluation. Planning papers for the vocational education study. Washington, D.C.: National Institute for Education.

Haas, T. (1990). Dropping out: Why do South Dakota students just say no to school and what can we do about it? (Position Paper). Aurora, CO: Mid-Continent Regional Educational Lab. (ERIC Document Reproduction Service No. ED 327 362)

Hahn, A. (1987). Reaching out to America's dropouts: What to do? Phi Delta Kappan, 69 (4), 256-263.

Hamilton, S. F. (1986). Raising standards and reducing the dropout rates. Teachers College Record, 87, 411-429.

Hunt, T. C., & Clawson, E. U. (1975). Dropouts: Then and now. The Education Digest, 41 (1), 14-17.

Irvine, F. R., & Irvine, C. L. (1985). Cooperative education: Its role and scope in vocational education. (Research report). Florida.

Jennings, J. F. (1991). Congressional intent. Vocational Education Journal, 66 (2), 18-19.

Kennedy, E. M. (1988). When students drop out, we all lose. Vocational Education Journal, 63 (6), 34-35.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30 (3), 607-610.

Luenburg, F. C., & Ornstein, A. C. (1991). Educational administration concepts and practices. Belmont, CA: Wadsworth.

Linsdale, J. E. (1924). Social needs in vocational education. School and Society, 20 (501), 151-153.

Local Administrators Directory 1993. (1992). Atlanta: Georgia Department of Education, Office of Instructional Programs, Secondary Vocational Instruction Division.

Lotto, L. (1982). The holding power of vocational curricula: Characteristics of effective dropout prevention programs. Journal of Vocational Education Research, 7 (4), 39-49.

Mann, D. (1986). Dropout prevention--getting serious about programs that work. NASSP Bulletin, 70 (489), 66-73.

Mason, R. E., & Haines, P. G. (1972). Cooperative occupational education. Danville: The Interstate Publishers.

McCarthy, S. (1980, January 6). Dropouts: Schools are failing to help their failures. New York Times, pp. 7, 21.

Mertens, D. (1986). Vocational education and the high-risk student. Journal of Vocational Education Research, 11 (10), 1-15.

Mertens, D., Seitz, R., & Cox, L. (1982). Vocational education and the high school dropout. (Contract No. 300-78-0032). Columbus, OH: Ohio State University, National Center for Research in Vocational Education. (ERIC Document Reproduction Service No. ED 228 397)

Miller, J., & Imel, S. (1987). Some current issues in adult, career, and vocational education. In E. Flaxman (Ed.), Trends and issues in education. Washington, D.C.: Council of ERIC Directors, Educational Resources and Improvement, U.S. Department of Education.

Naylor, M. (1987). Reducing the dropout rate through career and vocational education. (Contract No. 400-84-0011). Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education. (ERIC Document Reproduction Service No. ED 282 094)

Pallas, A. M. (1986). School dropouts in the United States. The Condition of Education, 158-170.

Project Success School Year 1990-91. (1992). Georgia Department of Education.

Ramirez, A. (1990). These are the hallmarks of effective dropout programs. Executive Educator, 12 (4), 23-25.

Reynolds, D. F. (1984). The Peninsula Academies: Third yearly interim report. (Evaluation Report). Palo Alto, CA: American Institute for Research in the Behavioral Sciences.

Ribicoff, A. (1961). Plain words from Mr. Ribicoff on dropouts. School Life, 44 (3), 14-15.

Ripp, C. (1992). Caring enough to do. The Delta Kappa Gamma Bulletin, 58 (4), 17-20.

Schreiber, D. (1968a). Profile of the school dropout. New York: McGraw-Hill.

Schreiber, D. (1968b). 700,000 dropouts. American Education, 4 (6), 5-7.

Scott, R. W. (1991). Making the case for Tech Prep. Vocational Education Journal, 66 (2), 22-23, 63.

Sechler, J. A., & Crowe, M. R. (1987). Roadsigns from research. BASICS: Bridging vocational education and academic skills. (Grant No. G00862030). Columbus, OH: Ohio State University, National Center for Research in Vocational Education. (ERIC Document Reproduction Service No. ED 288 957)

Selland, L. G. (1986). Principles of technology--the first two years. Vocational Education Journal, 61 (4), 47-49.

Sergiovanni, T. J., & Carver, F. D (1980). The new school executive: A theory of administration (2nd ed.). New York: Harper & Row.

Serving at-risk students through vocational education: A process, not an event. Raleigh, NC: North Carolina Department of Public Instruction, Division of Vocational Education.

Slavin, R. E., Karwait, N. L., & Madden, N. A. (1989). Effective programs for students at risk. Boston: Allyn & Bacon.

Smith, D. L., & Ament, P. A. (1990). At-risk secondary students and the impact of occupational education. (Review of the Literature). Carson City, NV: Nevada State Department of Education. (ERIC Document Reproduction Service No. ED 317 780)

Spence, D. S. (1987). Rethinking the role of vocational education. The Education Digest, 52 (6), 48-51.

Statistical Package for the Social Sciences. (1993). SPSS-X, Inc., 4.1 IBM.

Statistical Analysis System. (1989). Cary, NC: SAS Institute, Inc.

Stern, D. (1989). Benefits and costs of dropout prevention in a high school program combining academic and vocational education: Third year results from replications of the California peninsula academies. Educational Evaluation and Policy Analysis, 11, 405-416.

Stevens, L., & Price, M. (1992). Meeting the challenge of educating children at risk. Phi Delta Kappan, 64 (1), 18-23.

Swanson, G. I. (1978). Vocational education: Fact and fantasy. Phi Delta Kappan, 60, 87-90.

Theus, R. (1971). Dropouts--prevention and cure. The Clearing House, 46, 95.

Toles, R., Schulz, E. M., & Rice, W. K. (1986). A study of variation in dropout rates attributable to effects of high schools. Metropolitan Education, 2, 30-38.

Trevino, S. (1991). Mission impossible? Success for at-risk students. Principal, 70 (1), 31-32.

Valdiviesco, R. (1987). A "culture of concern" for at-risk students. The Education Digest, 52 (6), 29-31.

VanTil, W. (1965). Five bold ways to attack the dropout problem. Parents Magazine, 40 (3), 58-59, 131-132.

Vaughan, R. J. (1991). The new limits to growth: Economic transformation and vocational education. Phi Delta Kappan, 72, 446-449.

Wagner, M. (1991a). Dropouts with disabilities: What do we know? What can we do? A report from the national longitudinal transition study of special education students. (Contract No. 300-997-998). Menlo Park, CA: SRI International. (ERIC Document Reproduction Service No. ED 341 226)

Wagner, M. (1991b, April). The benefits of secondary vocational education for young people with disabilities. Findings from the National Longitudinal Transistion Study of Special Education Students. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

Weber, J. M. (1986). The role of vocational education in decreasing the dropout rate. (Contract No. 300-83-0016). Columbus, OH: Ohio State University, National Center for Research in Vocational Education. (ERIC Document Reproduction Service No. ED 264 444)

Weber, J. M. (1987). Strengthening vocational education's role in decreasing the dropout rate. (Grant No. G008620030). Columbus, OH: Ohio State University, National Center for Research in Vocational Education. (ERIC Document Reproduction Service No. ED 284 062)

Weber, J. M. (1988a). Dropout rates for students in different high school curricula--another look. Journal of Vocational Education Research, 13 (1), 35-49.

Weber, J. M. (1988b). The relevance of vocational education to dropout prevention. Vocational Education Journal, 63 (6), 36-38.

Weber, J. M., & Sechler, J. A. (1988). Vocational education and the retention of at-risk youth. (Review of the Literature). (ERIC Document Reproduction Service No. ED 297 123)

Weisberg, A. (1983). What research has to say about vocational education and the high schools. Phi Delta Kappan, 64, 355-359.

Welch, F. G. (1988). The continuing need for vocational education. The Education Digest, 54 (4), 40-42.

Wells, D. H., Springer, T. P., & McCready, M. A. (1987). Curbing dropout rates: An ecological model. (Research Report). Louisiana.

Whitman, D. (1989). The forgotten half. U. S. News and World Report, 106 (25), 45-53.

Wilcox, J. (1991). Preparing students for the real world. Vocational Education Journal, 66, (6), 38-40.

Willis, B. C. (1963). Vocational education in the years ahead. The Education Digest, 25 (7), 104-107.

Woodring, P. (1989). A new approach to the dropout problem. Phi Delta Kappan, 70, 468-469.

Worthington, R. M. (1984). Vocational education in the United States: Retrospect and prospect. (Occasional Paper No. 101). Columbus, OH: National Center for Research in Vocational Education. (ERIC Document Reproduction Service No. 253 700)

Worthington, R. M. (1985, September). Update on the condition of vocational education 1985. Paper presented at the annual Fall Leadership Development Conference of State Directors of Vocational Education, San Antonio, TX.

Yaffe, E. (1982). More sacred than motherhood. Phi Delta Kappan, 63, 469-472.